THE RECOVERY KERNEL

How to Navigate the Recovery Kernel

For People Recovering from Opioids

A step-by-step route: what to read, in what order, and what outcome the Kernel projects if you follow it.

> **HARM REDUCTION RESOURCE — NOT MEDICAL ADVICE.** If someone is unresponsive, breathing slowly, or has blue or gray lips: call 911 and give naloxone. Stay with them.
>
> Crisis: call or text 988 · SAMHSA: 1-800-662-4357 · Never Use Alone hotline: 1-800-484-3731

1. Before you start

This is a route through the Recovery Kernel for people recovering from heroin, fentanyl, prescription opioids, tramadol, or kratom and 7-OH, and for the people supporting them. Three rules set the order of everything that follows.

- **Survival before biology.** The Kernel framework runs alongside medical care, not instead of it. The opioid chapter opens with safety for a simple reason: nothing else in the framework helps someone who does not survive long enough to use it.
- **Biology first, taper second, behavior third** (Supplemental Chapter 5). For opioids, medication-assisted treatment (MAT) is part of the biology layer, not a step to rush past. See Step 1.
- **Do not wait for test results to start.** The genome confirms and refines the plan. It never gates the safety steps (Main Book, Quick-Start Step 3; Supplemental Chapter 5, Step 1b).

How chapters are cited. "Main Book" is the Recovery Kernel Main Book (Second Edition, Centurian). "Compendium" is the Complete Protocol Compendium. "Supp. Ch. N" is chapter N of the Supplemental Book, where the substance guides live: Chapter 18 (Opioids), Chapter 19 (Fentanyl), Chapter 20 (Kratom), Chapter 35 (Discontinuance Protocol: Opioids). Section numbers (§) refer to sections inside those chapters.

> **A note on protocol numbers.** Supplemental Chapters 18 and 35 cite Compendium protocols by number, and some of those numbers do not match the Compendium as printed. For example, the Compendium prints Protocol 05 as Digital Detox, Protocol 03 as Sonic Architecture (music), and Protocol 19 as The Body in Motion (exercise). This guide cites each protocol by its printed title and number. If a number and a title ever disagree, follow the title.
>
> For opioids, the sharpest version is using an old amount after any gap in tolerance — a hospital stay, incarceration, or a supervised break makes the old dose new again, and dangerous.

> Redosing is not the only version of this. Watching peers in a treatment setting negotiate a relapse, getting confident advice from someone untrained in your specific situation, or noticing a prescriber treat a prescribed substance more casually than an illicit one can all trigger the same pattern: a felt doubt read as “the plan must be wrong,” answered by abandoning it. See **The Commandeering Map**, a companion to this series, for the fuller pattern, including how it can differ by genetic profile and what helps when practice-based resistance alone is not enough.

2. The route at a glance

Steps 0 and 1 come first and cannot be skipped. Steps 2 to 4 can run at the same time. Steps 5 to 9 overlap and are the work of the first two years. Step 10 is everything after. "P" means Compendium Protocol; "C" means Centurian Paper.

Step	When	What you do	Turn to
0	Day 0	Naloxone in hand. Test strips. Never use alone. Respect lost tolerance.	Supp. Ch. 18 §0 Supp. Ch. 35 §0 Main Book, Quick-Start Step 1 Supp. Ch. 19 if fentanyl
1	Days 0–14	Start MAT or supervised detox. Never withdraw alone from benzodiazepines or alcohol.	Supp. Ch. 18 §3 Supp. Ch. 35 §§1–3, 7–8 Supp. Ch. 38 (MAT questions)
2	Weeks 1–4	Read the Main Book in order.	Main Book: Who This Book Is For, Quick-Start, Part One (Ch. 1–5), Ch. 7 if still using Supp. Ch. 2 and 3
3	Weeks 1–4	Order 30× whole-genome sequencing. Add a clinical PGx panel and baseline labs.	Supp. Ch. 5 Step 1 Supp. Ch. 18 §2 Compendium P06
4	Weeks 2–6	Resolve your combined profile. Carry a CYP2D6 wallet card.	Supp. Ch. 5 Steps 2–3, 6 Supp. Ch. 4 Supp. Ch. 35 §5
5	Day 1 to Month 6	Build the biological foundation with your prescriber and pharmacist.	Supp. Ch. 18 §4 Supp. Ch. 5 Phase One Compendium P17, P18, P09, P07, P10
6	Weeks 2–12, then ongoing	Remove cues. Learn the craving interrupt. Plan for high-risk moments.	Supp. Ch. 18 §5 Compendium P20, P21, P08, P33
7	Months 1–24	Rebuild the endorphin and reward systems.	Supp. Ch. 18 §6 Supp. Ch. 36 Compendium P19, P03, P29
8	In parallel	Treat pain. Begin trauma work once stable.	Supp. Ch. 18 §§4.3, 8 Compendium P14 Supp. Ch. 39
9	Months 2–12+	Identity, inventory, amends, money, work, family.	Supp. Ch. 42, 43, 51 Compendium C-28, P23, P24, P22
10	Year 1 to Year 10	Steward: review, transplant, mentor.	Supp. Ch. 44, 38, 6 Compendium P02, P13 Supp. Ch. 5 Step 6

3. The route, step by step

Step 0 — Stay alive (Day 0, before everything)

Get naloxone (available without a prescription at most US pharmacies) and learn the signs of overdose. Test any supply for fentanyl. Never use alone. If you have been abstinent for any stretch, whether in treatment, jail, hospital, or years of recovery, your tolerance is gone and your old dose can kill you. The Kernel identifies this as the most common way opioid recovery ends in death.

Turn to: Supp. Ch. 18 §0 (naloxone, recognizing overdose, test strips, never using alone). Supp. Ch. 35 §0. Main Book, Quick-Start Boot Sequence, Step 1. Supp. Ch. 19 (Fentanyl) if your supply was street heroin, counterfeit pills, or anything you cannot verify. Compendium Protocol 01, Emergency Triage, for an acute crisis state.

Step 1 — Medical stabilization and MAT (Days 0–14)

Find a prescriber for buprenorphine, methadone, or naltrexone, or a supervised detox. The Kernel states its position plainly: MAT is the foundation of the rest of the framework, not a compromise, and a person who is stable on it is in genuine recovery. Opioid withdrawal is rarely fatal by itself. What kills is returning to a prior dose at zero tolerance. If you also use benzodiazepines or alcohol, do not stop either on your own, because withdrawal from them can cause fatal seizures.

Turn to: Supp. Ch. 18 §3 (3.1 MAT, 3.2 withdrawal management, 3.3 timeline, 3.4 PAWS). Supp. Ch. 35 §§1–3 and 7–8 (why the guide centers on MAT, the withdrawal timeline, use-pattern classification, MAT and detox). Supp. Ch. 35 §9 if tapering a prescription (time-locked dispensing). Supp. Ch. 38 for the questions to ask your prescriber about MAT duration. If you also use benzodiazepines: Supp. Ch. 9 and Ch. 30. Alcohol: Supp. Ch. 8. Kratom or 7-OH: Supp. Ch. 20.

Step 2 — Read the Main Book (Weeks 1–4, alongside Step 1)

Read it in order once you are physically stable. If you are overwhelmed, the Quick-Start Boot Sequence is designed to be read on its own. Read "Who This Book Is — and Is Not — For" first: it names the situations where the supplement protocols need medical modification, including active psychosis, pregnancy, and severe liver disease.

Read in this order: Who This Book Is For → Quick-Start Boot Sequence → Part One: Ch. 1 (Why Willpower Isn't Enough), Ch. 2 (MTHFR), Ch. 3 (COMT), Ch. 4 (CYP450, the opioid-critical chapter), Ch. 5 (When Systems Collide) → Ch. 7 (Harm Reduction), only if you are still using → Part Two, the case files (Chapter 6), especially the Philip Seymour Hoffman file, which is the tolerance-reset lesson. Ch. 8 (Oxytocin Protocol) is experimental and specialist-only. Ch. 9 (Epigenetic Playground) belongs to Steps 7 and 10. Appendix A (clinical tables) and Appendix B (AI prompts) are reference.

Then add: Supp. Ch. 2 (Clarity · Restoration · Manning), which includes the two opioid case studies, Case 03 and Case 08, and sets your expectations. Supp. Ch. 3 (The Addict Virgin Problem), which recalibrates timelines for a damaged system. Supp. Ch. 1 (Why They Left You There) is optional reading for the shame.

Step 3 — Get your DNA (Weeks 1–4)

The Kernel's recommended route is 30× whole-genome sequencing, which returns a VCF file, a one-time asset you keep. A consumer SNP array is an acceptable start. A clinical pharmacogenomic panel adds clinical-grade CYP2D6, CYP2C19, and CYP3A4 calls. Homocysteine, B12, and RBC folate are functional markers you can recheck quarterly.

For opioids, the two highest-priority genes are **OPRM1** and **CYP2D6**. Next come CYP3A4, COMT, MTHFR, DRD2/ANKK1, BDNF, and ABCB1. Add GABRA2 and GABRB3 if you have used benzodiazepines or alcohol. Ask any prescriber to run CYP2D6 before writing a new psychoactive prescription. Until results arrive, use the free phenotype self-assessments. They are provisional but enough to begin safely.

> **Confirm what you are ordering.** Supp. Ch. 5 specifies 30× whole-genome sequencing with VCF output. "WGBS" more commonly names whole-genome bisulfite sequencing, a DNA-methylation assay that is not built to call variants such as OPRM1 A118G or MTHFR C677T. Ask the lab for a standard variant file (VCF). Ask whether CYP2D6 copy number is reported, and if not, add a clinical PGx panel.

Turn to: Supp. Ch. 5, Step 1 (1a test options, 1b free phenotype estimates). Supp. Ch. 18 §2 (DNA testing panel for opioid recovery; phenotyping without test results). Compendium Protocol 06, Phenotype Assessment. Main Book Ch. 2 and Ch. 3 self-assessments. Supp. Ch. 52 (The World Is Your Genome) for ancestry-frequency context, optional.

Step 4 — Resolve your combined profile (Weeks 2–6)

Single genes are vocabulary and combinations are the sentence. Three combinations matter most for opioids. **Metabolic Mismatch** (CYP2D6 poor or ultrarapid plus MTHFR/COMT) is the pipeline in which a prescription fails pharmacogenomically and the person moves to a street supply that bypasses CYP2D6. **Depleted Worrier** (MTHFR T/T plus COMT Met/Met) is the person for whom opioids felt like relief, not euphoria. **Anxious Depressant** (GABRA2 plus COMT Met/Met) is the fastest route to dependence and the usual opioid plus benzodiazepine or alcohol pattern. Write your profile down and carry your CYP2D6 result on a wallet card.

If your result is…	What changes	Source
OPRM1 A118G (G carrier)	Needed higher opioid doses for the same effect. Stronger naltrexone response. Raise with your prescriber. Naltrexone requires 7–10 days opioid-free first and is not first-line during active withdrawal.	Supp. Ch. 18 §§2, 3.1; Ch. 35 §5
CYP2D6 poor metabolizer	Codeine, tramadol, and hydrocodone give little relief. Buprenorphine does not depend on CYP2D6. Fentanyl still hits fully, so keep naloxone.	Supp. Ch. 2 Cases 03, 08; Ch. 5 System 3
CYP2D6 ultrarapid	Codeine converts to morphine dangerously fast and can be fatal at standard doses.	Supp. Ch. 18 §2; Ch. 5 System 3
CYP3A4 variants or inhibitors	Affects fentanyl, oxycodone, methadone, and buprenorphine levels. Tell every prescriber everything you take.	Supp. Ch. 18 §2; Ch. 35 §5

If your result is...	What changes	Source
COMT and MTHFR	Val/Val (Warrior) needs high-intensity outlets. Met/Met (Sage/Worrier) needs calm and structure. Any MTHFR T variant: avoid synthetic folic acid.	Main Book Ch. 2–3; Supp. Ch. 5
DRD2 A1	Fewer D2 receptors. Build several parallel reward sources, never one all-consuming pursuit.	Supp. Ch. 5 System 5; Ch. 35 §5
GABRA2 or GABRB3 risk	Weak inhibitory brakes and lower seizure threshold. Benzodiazepine and alcohol withdrawal needs medical supervision.	Supp. Ch. 4; Ch. 5 System 4

Turn to: Supp. Ch. 5, Steps 2, 3, and 6 (gene systems, combined profiles, the profile template). Supp. Ch. 4 (The Braking System). Supp. Ch. 35 §5. Main Book Ch. 5 and Appendix A.

Step 5 — Build the biological foundation (Day 1 to Month 6)

Begin as soon as you can tolerate it. The opioid foundation has four layers: methylation support, endorphin-system support, sleep repair, and gut and nutrition. It ramps slowly. Methylfolate, for example, is titrated over about eight weeks to avoid overmethylation. The dose tables are in the chapters below. Run every addition past a pharmacist and an interaction checker (Drugs.com or Medscape), and tell every prescriber what you take, because CYP3A4 interactions affect MAT. The peptide layer in Supp. Ch. 18 §4.5 is labeled by the Kernel as research compounds needing physician discussion, so it is not a self-start step.

Turn to: Supp. Ch. 18 §4.1 (methylation foundation), §4.2 (endorphin system), §4.4 (sleep), §4.5 (peptides, physician only). Supp. Ch. 35 §9 (Tiers 1–3). Supp. Ch. 5, Phase One. Main Book Ch. 2, §2.4–2.5 (MTHFR protocol and eight-week ramp). Compendium Protocol 17 (The Nightly Restoration), Protocol 18 (Eating for Restoration), Protocol 09 (The Gut-Brain Axis), Protocol 07 (Neuroplasticity), Protocol 10 (Dopamine Architecture), and Centurian Paper C-32 (The Insomnia Architecture).

> **Where two chapters disagree, follow the opioid chapters.** Supp. Ch. 5 places a generic opioid taper at months 3–6. For opioid users, Supp. Ch. 18, 35, and 38 govern: MAT is a foundation, and a taper is a decision made with your prescriber against readiness markers, not a date on a calendar.

Step 6 — Cues, environment, and craving (Weeks 2–12, then ongoing)

Cue-triggered craving is the Kernel's primary relapse mechanism for opioids. Seeing, smelling, or passing through the people, places, and objects tied to use can fire a full craving with no decision at all, so the fix is environmental, not willpower. Learn the five-minute craving interrupt. Know the highest-risk situations before they arrive: return of tolerance, pain events, grief, celebration, and any gap in MAT supply. Treat a return to use as data (Protocol 21) and also as a medical event, because tolerance loss makes it dangerous.

Turn to: Supp. Ch. 18 §5 (craving types, the 5-minute interrupt, highest-risk situations). Compendium Protocol 20 (Mapping the Terrain), Protocol 21 (Reading the Collapse), Protocol 08 (Social Environment), Protocol 33 (The Boundary Architect), Protocol 04 (Meeting Alternatives), Protocol 05 (Digital Detox), and Centurian Paper C-26 if a partner uses. Supp. Ch. 47 (Three Unspoken Rules) for how the body calibrates to a substance state.

Step 7 — Rebuild endorphin and reward (Months 1–24)

The central target in opioid recovery is endorphin release, not dopamine. Build it through daily vigorous exercise, safe human contact, laughter, music, cold exposure, service, and mastery. Because opioid receptors take months to upregulate, everything hurts more and feels flatter at first. That is the biology, not failure. Expect standard timelines from the literature to run two to three times longer for a damaged system.

Turn to: Supp. Ch. 18 §6 (endorphin architecture, social reconnection). Supp. Ch. 36 (Roots and Reversal: the WHEN Correlator and the BDNF engine). Supp. Ch. 3 (timeline recalibration). Compendium Protocol 19 (The Body in Motion), Protocol 03 (Sonic Architecture), Protocol 29 (The Peacetime Paradox), Protocol 27 (The Body Remembers), Protocol 28 (The Vigilant Mind).

Step 8 — Pain and trauma, on parallel tracks

If pain started it, the Kernel is direct: removing the opioid without treating the pain is suffering without strategy, and unmanaged pain is the most predictable path back. Buprenorphine is itself an analgesic, and non-opioid options include physical therapy, SNRIs, mindfulness-based stress reduction, and movement. Trauma work comes after biological and MAT stability, because started too early it can destabilize recovery. If you injected, get bloodborne infection testing. Hepatitis C is curable.

Turn to: Supp. Ch. 18 §4.3 (pain management), §7 (protocol map), §8 (co-occurring conditions). Supp. Ch. 35 §6 (special populations). Compendium Protocol 14 (Pain Management). Supp. Ch. 39 (Complex Trauma and the Substance Connection).

Step 9 — Identity, inventory, and rebuilding a life (Months 2–12, revisited later)

Once stable, work on who you are apart from the using years and rebuild the practical damage. Full Inventory is a structured 180-day plan. Amends to Self puts the person who lived through it first. Family, money, and work follow.

Turn to: Supp. Ch. 42 (Full Inventory). Supp. Ch. 43 (Amends to Self). Centurian Paper C-28 (The Recast). Compendium Protocol 23 (Rebuilding the Ledger), Protocol 24 (Returning to Work), Protocol 22 (The Family Field), Protocol 16 (The Isolation Spiral), Protocol 25 (The Open Door). Supp. Ch. 51 (Family & Support Network Guide): give it to the people who love you. If incarcerated or facing charges: Supp. Ch. 50, and Compendium Protocol 32, Protocol 39, Protocol 41.

Step 10 — The long game (Year 1 to Year 10)

The Kernel maps the first 24 months of opioid recovery in detail. After that, navigation shifts from repair to stewardship. The stage table and eight shifts in Section 4 show how. Standing tools: Supp. Ch. 44 (The Transplant: redirect the devotion into a practice that grows). Supp. Ch. 6 (Stay Non-Addicted) and Compendium Protocol 02 (Behavioral Addictions, with its "Mask Change" caution on addiction transfer). Compendium Protocol 13 (The Pharma Trap, a regular review of whether each medication is still needed). Supp. Ch. 38. Supp. Ch. 5, Step 6 (a weekly AI check-in profile, a reasoning tool and never a provider).

4. How navigation changes at Years 3, 5, and 10

Shading shows how much attention each track needs. Darkest is primary focus, then active, then maintenance. White cells with gray text are standing safeguards: low effort, never dropped. Numbers in brackets refer to the shifts listed below the table.

Track	Months 0–24 (foundation)	Year 3 (consolidate)	Year 5 (build out)	Year 10 (steward)
Safety and medication	Naloxone · MAT · test strips	MAT review, not autopilot [1]	Naloxone kept; pain-event plan	Tolerance-reset rule, for life [7]
Biology and genome	Genome; methylation base	Retest labs; step stack toward maintenance [2]	Prescriber wallet card	Re-check with new meds and age
Cues and environment	Cue removal, top priority	Cues fainter, not gone	Triggers shift to life events: grief, wins [5]	Same plan, rehearsed
Endorphin and reward	Exercise, touch, laughter, music	Natural reward carries the load [3]	Exercise is a lifestyle	Periodized, still daily
Pain and trauma	Pain track first; trauma later	Trauma work, if stabilized	Pain plan, annual review	New pain: age, surgery, dental [8]
Identity and inventory	Full inventory; identity from month 2	Amends to self; recast the self	Identity beyond the using years	Annual re-inventory
Meaning and Manning	Purpose: first seeds only	Transplant; return to work [4]	Manning: mentor, service [6]	Mentor or run a group

The eight shifts

1. **Year 3, MAT becomes a review, not a default.** The Kernel treats medication as scaffolding with exit criteria, but carves MAT out: the goal is not zero medication, and someone stable on it is in genuine recovery. Bring the readiness questions in Supp. Ch. 38 to your prescriber: target duration, markers for readiness, what the taper looks like, and what natural supports must be in place first. See also Compendium Protocol 13 and Supp. Ch. 35 §3.
2. **Year 3, the stack moves from building to testing.** Retest homocysteine and labs (Supp. Ch. 5 Step 1a) and step down toward maintenance. The Trinity chapter says supplements are taken until the system is stable, then tapered and resumed if it destabilizes. Main Book Ch. 2 says MTHFR support is maintenance, not cure. Do both: step down to maintenance, not to zero.
3. **Year 3, natural reward carries the load.** Receptor and endorphin recovery is substantially complete by 12–18 months (Supp. Ch. 18 §3.3). Exercise, connection, and laughter stop being a bridge across a deficit and become ordinary life.
4. **Year 3, meaning moves up.** As the repair tracks drop to maintenance, redirect the devotion the using years required into a practice (Supp. Ch. 44) and return to work (Compendium Protocol 24).

5. **Year 5, triggers shift from cues to life events.** As cue-driven craving fades, the remaining exposure is grief, celebration, pain events, and gaps in MAT supply, all named in Supp. Ch. 18 §5. Keep Protocol 21 ready.
6. **Year 5, Manning.** This is the Trinity's third stage (Supp. Ch. 2). Supp. Ch. 18 §6 notes that many long-term opioid recovery successes cite service as the central pillar, so mentoring and peer support peak here.
7. **Year 10, the tolerance-reset rule stays for life.** The Hoffman case file in Part Two of the Main Book (23 years sober, dead at 46) is the Kernel's own argument that risk never reaches zero. Naloxone in the home and a written relapse plan are permanent.
8. **Year 10, new pain.** Age brings surgeries, dental work, and new pain, which the Kernel already names as relapse triggers (Supp. Ch. 18 §5, §4.3). Make the plan before the event, and give every prescriber your genotype and history.

What is sourced and what is extrapolated. *Shifts 3, 6, and 7 rest directly on Kernel text. Shifts 1 and 2 apply Kernel rules at a timing chosen for this guide. Shifts 4, 5, and 8 are extrapolations. The Kernel's detailed opioid timeline ends near month 24, and its WHEN Correlator puts deep-root reversal at 2 to 5 or more years. Years 3, 5, and 10 are therefore projections.*

5. What outcome to expect

The short version

If you do the route above, with MAT and naloxone first, genome-guided medication choices, the biological foundation, cue removal, the endorphin and reward rebuild, pain and trauma treated in parallel, and then identity and purpose work, this is the outcome the Kernel projects:

- **You survive the early window.** Withdrawal is managed, you do not return to an old dose at zero tolerance, and naloxone is always within reach.
- **Within 12 to 18 months the systems opioids muted come back online.** Mu-opioid receptors, the endorphin system, the dopamine baseline, sleep, and pain sensitivity recover. Cravings become contextual rather than constant, and PAWS waves thin out by about 18 to 24 months (longer after fentanyl).
- **By the end of year 1 you are past survival mode.** In the Kernel's Trinity: Clarity (you understand your mechanism), Restoration (your biology is rebuilt), Manning (you run a life designed for your wiring).
- **By years 3 to 5 the work is maintenance and building. By year 10 you are a steward,** carrying a small set of standing safeguards, not a daily fight.

The Kernel does not promise zero risk, no lapses, or that supplements can replace MAT. Its own text says the opposite on each point.

Milestones, in order

Milestone	When	Expected outcome	Source	Basis
Survive the early window	Days 0–14	Withdrawal managed by MAT or supervised detox. No unsupervised return to a prior dose. Naloxone on hand.	Supp. Ch. 18 §§0, 3; Ch. 35 §0	Clinical fact
Acute withdrawal resolves	Days 3–10 physical; weeks 1–4 emotional	Physical symptoms resolve. Depression and anhedonia peak around days 3–10, then improve unevenly. PAWS waves expected.	Supp. Ch. 18 §3.3	Clinical timeline
Cravings shorten	Months 1–6	A gap opens between the thought and the action. Cravings often drop 50–70% by month 3 to 6. Individual cravings peak and pass in about 20–30 minutes.	Main Book Ch. 2 §2.5; Supp. Ch. 2; Ch. 18 §5	Kernel projection
Sleep, mood, energy stabilize	Months 1–6	Sleep architecture returns. Mood is more consistent. Stress events pass in days, not weeks.	Supp. Ch. 2; Ch. 18 §4.4	Kernel projection
Receptor and endorphin recovery	Months 6–18+	Mu-opioid receptor density substantially recovered. Natural comfort and social bonding return. Pain sensitivity normalizes.	Supp. Ch. 18 §3.3; Ch. 35 §3	Kernel projection
PAWS window closes	Up to 18–24 months	Waves of anxiety, flatness, or unexplained craving become rare. Fentanyl-involved recovery may run longer.	Supp. Ch. 18 §3.4	Kernel projection
Deep-root reversal	2–5+ years	Prefrontal recovery and epigenetic reversal continue. Some changes may be partial. The goal is an optimized post-recovery baseline, not a return to the past.	Supp. Ch. 36	Kernel projection
Steward phase	Years 3–10	Repair tracks at maintenance. MAT reviewed, continued or supervised-tapered. Purpose and service. Standing safeguards.	Section 4 of this guide	Extrapolated

The Kernel's own 12-month numbers for two opioid profiles

Supplemental Chapter 2 gives projected outcomes at 12 months for an adherent protocol compared with standard treatment. Case 03 is a 29-year-old whose pain began after back surgery, a CYP2D6 poor metabolizer now using fentanyl. Case 08 is a 45-year-old with a work injury, labeled drug-seeking, whose CYP2D6 status was never tested.

Case	Measure	Kernel protocol	Standard treatment
Case 03	12-month MAT retention with OPRM1-guided selection	74%	40%
Case 03	No overdose events at 12 months, with naloxone access	82%	55%

Case	Measure	Kernel protocol	Standard treatment
Case 03	Return to functional daily activities	71%	35%
Case 03	Craving reduction of 50% or more with NAC and DLPA support	65%	15%
Case 08	Adequate pain management with CYP2D6-guided prescribing	78%	20%
Case 08	12-month MAT retention, if buprenorphine initiated	76%	42%
Case 08	No unregulated supply exposure at 12 months	70%	35%
Case 08	Avoidance of criminal justice contact at 12 months	82%	55%

How to read these numbers. *The Kernel describes them as archetype projections, "probability estimates" for an adherent, biologically confirmed 12-month protocol, drawn from cited studies (such as Oslin 2003 on OPRM1 and naltrexone, and the CPIC codeine guideline) and SAMHSA baselines. They are not guarantees, and the Main Book states that it is not reporting a randomized controlled trial of the Kernel itself.*

What changes the outcome

- **Skipping Steps 0 and 1.** No supplement, exercise plan, or genome result compensates for returning to a prior dose at zero tolerance.
- **Running out of MAT, or stopping it abruptly.** The Kernel calls gaps in MAT supply an extremely high-risk period. Plan continuity of supply.
- **Tapering MAT on a calendar instead of readiness.** See the note at Step 5.
- **Untreated pain or trauma.** The Kernel names both as the most reliable predictors of relapse.
- **Unsupervised withdrawal from benzodiazepines or alcohol,** which can be fatal.
- **A lapse.** The Kernel treats it as information, not judgment (Protocol 21). It is also a medical emergency risk: keep naloxone, contact your MAT provider, and do not use alone.

How to read the evidence behind the outcomes

The Main Book marks claims with an Evidence Tier: Established, Probable, Emerging, Author/System Experience, and Controversial or Mixed. This guide's reading: the mortality benefit of MAT and the danger of lost tolerance are well-established clinical facts. The supplement stack, the percentage projections, and the years 3 to 10 trajectory sit lower on that scale, so bring them to your clinician as questions ("I have read this; what do you think given my situation?"), not as facts. The peptide layer and the oxytocin protocol are experimental and specialist-only.

Take these to your prescriber

- Your OPRM1, CYP2D6, and CYP3A4 results, and a wallet card stating your CYP2D6 status.

- A written plan for MAT: target duration, readiness markers for any taper, and how supply continuity is guaranteed.
- Every supplement you take, with doses, so interactions can be checked.
- A pain plan made before any surgery or dental procedure, and a request that your addiction history be on record.
- Naloxone: a prescription or over-the-counter supply for you and everyone in your home.